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EXAMINER

FLEURANTIN, JEAN B

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/898,266

Applicant(s)

POLICASTRO ET AL.

Examiner

Jean B Fleurantin

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This is in response to the application filed on July 03, 2001.
2. Claims 1-56 are presented for examination.

### ***Information Disclosure Statement***

3. The references cited in the IDS, PTO-1449 have been fully considered.

### ***Drawings***

4. The drawings are accepted by the Examiner.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zamanian et al. (US Pat. No. 6,014,670) ("Zamanian").

As per claim 1, Zamanian teaches method for providing an education decision support library in an educational environment to enable user access to information, over a processor based network, wherein the information assists the user in making a decision in the educational environment, as claimed the method comprises the steps of loading operational data from one or more sources into a database (thus, the extraction, transformation and loading process 202 then

Art Unit: 2172

makes the appropriate transformation and propagates the changes to the appropriate target tables warehouses 203-205; which is readable as loading operational data from one or more sources into a database)(see col. 4, lines 22-31);

providing one or more tools to extract and transform data into a decision support resource (thus, a determination is made in step 502 as to whether any additional source tables are required in order to access the require raw data, step 501 is repeated to specify those table after all source tables have been specified a determination as to the number and types of transformations to be performed is them in step 503, the transformation behavior of each of the transformations is then specified; which is readable as providing one or more tools to extract and transform data into a decision support resource)(see col. 6, lines 23-34). But, Zamanian does not explicitly indicate providing one or more analysis tools that enable a user to manipulate the data; and accessing the one or more analytical tools over the processor based network. However, Zamanian implicitly indicates the data warehouse is comprised of an analytical database containing data useful for decision support; which is readable as providing one or more analysis tools that enable a user to manipulate the data, (see col. 1, lines 40-42); and the extraction, transformation and loading process 202 then makes the appropriate transformation and propagates the changes to the appropriate target tables warehouses 203-205; which is readable as accessing the one or more analytical tools over the processor based network, (see col. 4, lines 22-31). Thus, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teachings of Zamanian with providing one or more analysis tools that enable a user to manipulate the data; and accessing the one or more analytical tools over the processor based network. This modification would allow the teachings of Zamanian to improve the accuracy and the reliability

Art Unit: 2172

of the system and method for an education decision support library, and provide a unique and efficient means for exchanging transformation metadata among various data warehousing applications, (see col. 19, lines 42-44).

As per claims 2, 23 and 32, Zamanian teaches the method as claimed, wherein the step of loading operational data from one or more sources further includes loading data from at least one of a data mart and legacy system, (see col. 4, lines 22-25).

As per claims 3 and 46, Zamanian teaches the method as claimed, wherein the data mart is a mobile data mart, (see col. 3, lines 50-53).

As per claims 4 and 21, Zamanian teaches the method as claimed, wherein the step of loading operational data from one or more sources further includes loading data from a human resources department, (see col. 4, lines 22-23).

As per claim 5, Zamanian teaches the method as claimed, wherein the step of loading operational data from one or more sources further include loading data from a financial department, (see col. 4, lines 22-23).

As per claim 6, Zamanian teaches the method as claimed, wherein the step of loading operational data from one or more sources further include loading historical data, the historical data from a historical file, (see col. 4, lines 22-23).

As per claims 7, 17 and 20, Zamanian teaches the method as claimed, wherein the step of loading operational data from one or more sources further includes loading data from a student information database, (see col. 4, lines 28-31).

As per claim 8, Zamanian teaches the method as claimed, wherein the step of loading operational data from one or more sources further includes loading data corresponding to an external benchmark, (see col. 1, lines 65-67).

As per claim 9, Zamanian teaches the method as claimed, further includes applying a transformation to the operational data to create a staging database, (see col. 4, lines 22-25).

As per claims 10, 11 and 33, Zamanian teaches the method as claimed, further including applying a business rule to the staging database to create a domain table, (see col. 4, lines 56-58).

As per claim 12, Zamanian teaches the method as claimed, further includes scrubbing the operational data, the scrubbing the operational data including: removing operational peculiarities from the operational data, (see col. 15, lines 19-27); and

validating the operational data, (see col. 20, lines 20-26).

As per claim 13, Zamanian teaches the method as claimed, wherein the removing operational peculiarities from the operational data includes at least one of editing, updating, and deleting data with operational peculiarities, (see col. 15, lines 19-27).

As per claim 14, Zamanian teaches the method as claimed, further including scrubbing the operational data by applying the data to a conforming model, (see col. 4, lines 55-64).

As per claims 15 and 35, Zamanian teaches the method as claimed, further including organizing the loaded operational data into one or more tables, entity objects, data objects or relational objects, (see cols. 4 and 20, lines 55-64 and 23-26).

As per claims 16, 18 and 19, Zamanian teaches the method as claimed, wherein the step of loading operational data from one or more sources further includes loading data from Test Standards of Learning (SOL), (see col. 19, lines 1-67).

Art Unit: 2172

As per claims 22 and 25, Zamanian teaches the method as claimed, wherein the step of loading operational data from one or more sources further includes loading data from a Stanford 9 test category, (see col. 19, lines 1-67).

As per claim 24, the limitations of claim 24 are rejected in the analysis of claim 1, and this claim is rejected on that basis.

As per claim 26, Zamanian teaches the method as claimed, wherein the step of loading operational data from one or more sources further includes loading data from at least one selected from the group consisting of a Graduation Information category, an International Baccalaureate Test (IB) category, a Scholastic Achievement Test (SAT) category, an Approved Instructional Materials category, an Elementary Academic Records category, a Facilities Management category, a Family and Early Childhood Education Program (FECEP)/Head Start Report/Child Plus Database, a Grade Point Average (GPA) category, and a Staffing category, (see col. 19, lines 1-67).

As per claims 27 and 29, Zamanian teaches the method as claimed, wherein the step of loading operational data from one or more sources further includes loading data from at least one selected from the group consisting of an instructional management systems category; a logistics category; a math/science completers category; an Otis-Lennon School Ability Test category; a Professional Technical Studies Completers category; a Resource Teachers category; and a Standardized Tests category, (see col. 19, lines 1-67).

As per claim 28, Zamanian teaches the method as claimed, wherein the step of loading operational data from one or more sources further includes loading data from at least one of a Student Discipline category and a Summer School category, (see col. 19, lines 1-67).

Art Unit: 2172

As per claims 30, 42 and 43, Zamanian teaches the method as claimed, further includes creating a plurality of the multidimensional data structures, wherein the plurality of multidimensional data structures are organized into one or more volumes according to a predetermined category of the operational data, (see col. 1, lines 22-28).

As per claims 31, 40 and 53, in addition to the discussion in claim 1, Zamanian further teaches scrubbing the operational data, the scrubbing the operational data including removing operational peculiarities from the operational data and validating the operational data (thus, in data warehouses and data marts the data is structured to satisfy decision support roles rather than operational needs, before the data is loaded into the data warehouse or data mart the corresponding source data from an operational database is filtered to remove extraneous and erroneous records; which is readable as scrubbing the operational data, the scrubbing the operational data including removing operational peculiarities from the operational data and validating the operational data)(see col. 1, lines 31-40);

applying a transformation to the operational data to create a staging database (thus, the process for how the input data from various sources flow into the desired results in one or more target databases; which is readable as applying a transformation to the operational data to create a staging database)(see col. 1, lines 65-67).

As per claim 34, Zamanian teaches the method as claimed, further includes applying at least one business rule to the staging database to create a plurality of multidimensional data structures, the plurality of multidimensional data structures being organized into one or more volumes according to a predetermined category of the operational data, (see col. 1, lines 22-28).



As per claim 36, in addition to the discussion in claim 1, Zamanian further teaches presenting the administrator the multidimensional data structure through a network interface, wherein the network interface enables the administrator to manipulate the multidimensional data structure (thus, the primary objective for creating TDL is to provide a text-based representation of the definitions of various source, transformation and target objects used in data warehousing applications, such textual descriptions can in turn be used for verification of the mappings created through a graphical user interface; which is readable as presenting the administrator the multidimensional data structure through a network interface, wherein the network interface enables the administrator to manipulate the multidimensional data structure)(see col. 19, lines 16-21);

analyzing the operational data in the multidimensional data structure based on the manipulation of the multidimensional data structure by the administrator (thus, transformation description language could potentially become a standard for exchanging transformation metadata across various programs, furthermore, transformation description language could potentially be extended to capture the complete behavior of a mapping 'i.e., the internal dependencies and the data flow across the acyclic, directed graph structure of the mapping,' in a sense, transformation description language may be extended to become a complete transformation programming language to be used on top of the transformation engine to offer a truly software component which in turn could be embedded in various data warehousing systems; which is readable as analyzing the operational data in the multidimensional data structure based on the manipulation of the multidimensional data structure by the administrator)(see col. 19, lines 24-33). But, Zamanian does not explicitly indicate applying a

Art Unit: 2172

business rule to operational data collected for one or more administrative topics related to the educational institution; and entering the data into a multidimensional data structure based on the business rule. However, Zamanian implicitly indicates extracting raw data from one or more operational databases and transforming it into useful information is the function of data "warehouses" and data "marts," in data warehouses and data marts, the data is structured to satisfy decision support roles rather than operational needs, before the data is loaded into the data warehouse or data mart, the corresponding source data from an operational database is filtered to remove extraneous and erroneous records, cryptic and conflicting codes are resolved, raw data is translated into something more meaningful; and summary data that is useful for decision support, trend analysis or other end-user needs is pre-calculated; which is readable as applying a business rule to operational data collected for one or more administrative topics related to the educational institution)(see col. 1, lines 29-38); and a determination is made in step 502 as to whether any additional source tables are required in order to access the require raw data, step 501 is repeated to specify those table after all source tables have been specified a determination as to the number and types of transformations to be performed is them in step 503, the transformation behavior of each of the transformations is then specified; which is readable as entering the data into a multidimensional data structure based on the business rule, (see col. 6, lines 23-34). Thus, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teachings of Zamanian with applying a business rule to operational data collected for one or more administrative topics related to the educational institution; and entering the data into a multidimensional data structure based on the business rule. This modification would allow the teachings of Zamanian to improve the accuracy and the reliability of the system and method for

Art Unit: 2172

an education decision support library, and provide a unique and efficient means for exchanging transformation metadata among various data warehousing applications, (see col. 19, lines 42-44).

As per claim 37, Zamanian teaches the method as claimed, wherein the network interface comprises an Internet browser, (see col. 3, lines 53-65).

As per claim 38, Zamanian teaches the method as claimed, wherein manipulation of the multidimensional data structure enables the administrator to display a relationship amongst the operational data, (see col. 19, lines 16-21).

As per claim 39, Zamanian teaches the method as claimed, wherein the one or more administrative topics are selected from the group consisting of logistics, facilities management, financial analysis, human resources, student achievement index, student discipline, instructional management systems, strategic targets, student grades, standardized tests, course enrollment, student membership, educational topics, Advanced Placement Test (AP), Approved Instructional Materials, Elementary Academic Records, Facilities Management, Family and Early Childhood Education Program (FECEP), Financial Analysis, Grade Point Average (GPA), Graduation Information, High Schools Course Enrollment and Marks, Staffing, Instructional Management Systems, International Baccalaureate Test (IB), Math/Science Completers, Middle Schools Course Enrollment and marks, Otis-Lennon School Ability Test, Professional Technical Studies Completers, Resource Teachers, SAT Test Results, School wide Achievement Index, Service Program Enrollment, Special Education, Standardized Tests, Start Report/Child Plus Database, Student Discipline, Student Membership, Summer School, Standards of Learning (SOL), Stanford 9, and the Virginia Literacy Passport Test (VLPT) (see cols. 2 and 19, lines 1-40 and 21-44).

Art Unit: 2172

As per claim 41, the limitations of claim 41 are rejected in the analysis of claim 1, and this claim is rejected on that basis.

As per claim 44, Zamanian teaches the method as claimed further includes the steps of displaying operational data categories of the operational data, the operational data categories represented by tiles (see col. 6, lines 40-42); and

arranging the tiles to create multidimensioned charts, (see col. 7, lines 16-54).

As per claim 45, in addition to the discussion in claims 1 and 36, Zamanian further teaches the decision support portion further applying a transformation to the operational data to create a staging database (thus, the process for how the input data from various sources flow into the desired results in one or more target databases; which readable as the decision support portion further applying a transformation to the operational data to create a staging database)(see col. 1, lines 61-67).

As per claim 47, the limitations of claim 47 are rejected in the analysis of claim 10, and this claim is rejected on that basis.

As per claim 48, the limitations of claim 48 are rejected in the analysis of claims 1 and 36, and this claim is rejected on that basis.

As per claims 49 and 50, the limitations of claims 49 and 50 are rejected in the analysis of claims 1 and 36, and these claims are rejected on that basis.

As per claim 51, the limitations of claim 51 are rejected in the analysis of claim 36, and this claim is rejected on that basis.

As per claim 52, in addition to the discussion in claims 1 and 36, Zamanian further teaches a decision support portion, the decision support portion inputting operational data from the operational data source, (see col. 1, lines 61-67),

wherein the user is enabled to arrange faces of the multidimensional data structures displayed on a user interface, using an analytical tool, to display different operational data (thus, the primary objective for creating TDL is to provide a text-based representation of the definitions of various source, transformation and target objects used in data warehousing applications, such textual descriptions can in turn be used for verification of the mappings created through a graphical user interface; which is readable as wherein the user is enabled to arrange faces of the multidimensional data structures displayed on a user interface, using an analytical tool, to display different operational data)(see col. 19, lines 21-21).

As per claim 54, Zamanian teaches the method as claimed, further includes means for applying business rules to the staging database to create a plurality of multidimensional data structures, the plurality of multidimensional data structures being organized according to a predetermined category of the operational data, (see col. 1, lines 29-38).

As per claims 55 and 56, Zamanian teaches the method as claimed, wherein the data mart is an internal repository, which is internal to an entity providing the education decision support library (thus, the data warehouse is comprised of an analytic database containing data useful for decision support; which is readable as wherein the data mart is an internal repository, which is internal to an entity providing the education decision support library)(see col. 1, lines 29-42).

Art Unit: 2172

***Prior Art***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Zamanian et al. US Patent No. 6,339,775, relates to an apparatus and method for transforming data in data warehousing application.

***Conclusion***

7. Any inquiry concerning this communication from examiner should be directed to Jean Bolte Fleurantin at (703) 308-6718. The examiner can normally be reached on Monday through Friday from 7:30 A.M. to 6:00 P.M.

If any attempt to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Mrs. KIM VU can be reached at (703) 305-8449. The FAX phone numbers for the Group 2100 Customer Service Center are: ***After Final*** (703) 746-7238, ***Official*** (703) 746-7239, and ***Non-Official*** (703) 746-7240. NOTE: Documents transmitted by facsimile will be entered as official documents on the file wrapper unless clearly marked "***DRAFT***".

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2100 Customer Service Center receptionist whose telephone numbers are (703) 306-5631, (703) 306-5632, (703) 306-5633.



Jean Bolte Fleurantin

2003-06-29

JBf/

*Primary*  
SHAHID AL ALAM  
PATENT EXAMINER